# ABSORBENT ARTICLE WITH SHORTER RISE AND TACTILE TRAINING CUE

## BACKGROUND

**[0001]** The present disclosure relates to absorbent articles that include a physical sensation member. More specifically, the disclosure relates to an absorbent article such as training pants that provides the wearer with a noticeable physical sensation upon urination.

**[0002]** Absorbent articles such as disposable diapers and training pants are useful to absorb and contain body wastes. These products have developed to the extent that urine is quickly drawn and retained away from the wearer's skin so that the wearer remains relatively dry and comfortable. Although this improved performance enhances wearer dryness and comfort, it can reduce the wearer's ability to notice or recognize when urination occurs, especially if the wearer's attention is distracted by an activity. This is not conducive to toilet training because an important step in the early stages of toilet training is the ability to recognize when urination occurs. In an attempt to enhance a child's recognition of when urination occurs, training pants have been designed with temperature change members that provide a temperature change sensation upon urination.

**[0003]** Unfortunately, in certain circumstances, such temperature change members might not be completely satisfactory. For example, the element providing the temperature change sensation might not be in contact with the wearer's skin, thus limiting the effectiveness of the sensation.

**[0004]** Thus, there is a need for an absorbent article with a physical sensation member that is capable of more effectively providing a physical sensation to the wearer.

## SUMMARY

**[0005]** A problem in transferring a tactile sensation to the skin as feedback to a wetting incident has been the "bucket" design of absorbent products. This "bucket" separates the tactile element from the skin, whether the tactile element is warming, cooling, tingling, etc. Tactile sensations generally transfer poorly across an air gap. Product forms of the present disclosure reduce the rise (in the machine direction (MD) length) of the product. This effectively reduces the gap between a tactile element and the wearer's skin. As a result, the absorbent product design, including, as quantified by MD to cross-direction (CD) ratio, is significantly different from other products with tactile cues.

**[0006]** The present inventors undertook intensive research and development efforts with respect to improving absorbent articles, particularly in providing a wetness indicator.

**[0007]** The present disclosure provides a pant-like absorbent article including an absorbent chassis defining a waist opening and first and second leg openings, the absorbent chassis including an absorbent assembly. The absorbent chassis has a longitudinal length and the waist opening having an unstretched circumference, such that the longitudinal length is proportional to the unstretched circumference of the waist opening by a ratio less than 0.82. The absorbent article also includes a wetness indicator for alerting a wearer to a release of liquid body exudates, the wetness indicator including a physical sensation agent responsive to liquid body exudates received by the absorbent article to facilitate a physical sensation against the wearer's skin for alerting the wearer to the wearer's release of liquid body exudates.

**[0008]** The present disclosure also provides an article for personal wear, the article being capable of alerting a wearer to the wearer's release of liquid body exudates. The article includes an outer cover, an absorbent assembly, a waist opening, and first and second leg openings, the article having a longitudinal length and the waist opening having an unstretched circumference. The article also includes a liner adapted for contiguous relationship with the wearer's skin due to the longitudinal length being proportional to the unstretched circumference of the waist opening by a ratio less than 0.82, and a wetness indicator disposed between the liner and the outer cover. The wetness indicator includes an absorbent body disposed for absorbing liquid body exudates, whereby the wetness indicator swells as the absorbent body absorbs liquid body exudates, and a physical sensation element including a physical sensation agent responsive to the liquid body exudates to facilitate a physical sensation against the wearer's skin, the physical sensation agent being disposed at least one of on or within the physical sensation element such that liquid body exudates absorbed by the physical sensation element of the wetness indicator are subjected to a physical sensation by the physical sensation agent at least one of prior to and upon absorption of liquid body exudates by the absorbent body.

**[0009]** The present disclosure also provides a method for producing an article for personal wear, the article being capable of alerting a wearer to the wearer's release of liquid body exudates. The method includes producing a first disposable absorbent article of size n including no wetness indicator and having a size n longitudinal length and a waist opening with a size n unstretched circumference. The method also includes producing a second disposable absorbent article of size n-1 substantially equivalent in design to the first disposable absorbent article, the second disposable absorbent article including no wetness indicator and having a size n-1 longitudinal length and a waist opening with a size n-1 unstretched circumference. The method also includes producing a third disposable absorbent article of size n including a wetness indicator and having a longitudinal length of the size n-1 longitudinal length ±5% and a waist opening unstretched circumference of the size n unstretched circumference ±5%.

**[0010]** Other features and aspects of the present disclosure are discussed in greater detail herein.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0011]** The foregoing and other features and aspects of the present disclosure and the manner of attaining them will become more apparent, and the disclosure itself will be better understood by reference to the following description, appended claims, and accompanying drawings.

**[0012]** FIG. **1** is a side perspective view of one aspect of an absorbent article;

**[0013]** FIG. **2** is a plan view of the absorbent article shown in FIG. **1** with the article in an unfastened, unfolded and laid flat condition showing the surface of the article that faces away from the wearer;

**[0014]** FIG. **3** is a plan view of the absorbent article shown in FIG. **1** with the article in an unfastened, unfolded and laid flat condition showing the surface of the article that faces the wearer; and

**[0015]** FIG. **4** is a perspective view of the absorbent article illustrated in FIG. **1** including one aspect of a wetness indicator of the present disclosure.